

## Reprocessing of the 20-year satellite record of SST

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The AVHRR sensors carried on board the NOAA polar orbiting satellites offer the longest continuous dataset for spaceborne retrievals of sea surface temperature. Although short in comparison with the historical *in situ* record, the satellite data provide a vast number of observations with frequent and regular global coverage. It is essential that such a dataset be processed in as uniform a manner as possible, accounting for all known sources of bias and with a good description of the quality of the output. Previous efforts have used direct matches to *in situ* data in order to specify the retrieval algorithm, thereby eliminating some potential sources of error but intrinsically combining others into the final product. One particular difficulty has been the variation in retrieval quality due to the dramatic changes in availability of *in situ* data over the past two decades. We are now engaged in a project that makes use of radiative transfer methodology to specify the retrieval algorithms independent of *in situ* data coverage. This not only allows error estimates to be made for all regions and times but also permits independent evaluation via the available *in situ* data. Furthermore, surface effects (skin effect and diurnal thermocline) and aerosols can now be dealt with explicitly. A preliminary version is expected to be available for evaluation in 2004, with the final dataset being released by the end of 2005.